

## **ABSTRACT**

Method and apparatus for high rate code-division multiple access wireless communication is described. Each of a channel encoded data is modulated by an associated code having a small number of pseudo-noise spreading chips per orthogonal waveform period, thus producing a set of streams of modulated symbols. Each of the set of streams of modulated symbols is then gain adjusted, and combined to yield two streams of combined symbols. The combination of the set of streams is carried out to reduce a peak-to-average ratio of the transmission. The resulting two combined symbol streams are modulated by a complex multiplier using a user long code and a pseudorandom spreading code (PN code) and upconverted for transmission.